Name: _____ Class: _____ Date: _____

Signed Fractions and Decimals

Use the same processes with signed fractions and decimals as are done with integers (positive and negative whole numbers.)

Example 1: **Compute** $\frac{1}{3}+\left(-\frac{9}{20}\right)$

Solution: When adding a positive number and a negative number, subtract the values and the number further from zero determines the sign.

$$\frac{1}{3}+-\frac{9}{20}=\frac{1}{3}\cdot\frac{20}{20}+-\frac{9}{20}\cdot\frac{3}{3}=\frac{20}{60}+-\frac{27}{60}=-\frac{7}{60}$$

Example 2: **Compute** $-1.25-(-3.90)=2.65$

Solution: Change any subtraction problem to "addition of the opposite" and then follow the addition process.

$$-1.25-(-3.9)\Rightarrow -1.25+3.9=-1.25+3.90=2.65$$

Example 3: **Compute** $-1\frac{1}{4}\div 7\frac{1}{2}$

Solution: With multiplication or division, if the signs are the same, then the answer is positive. If the signs are different, then the answer is negative.

$$-1\frac{1}{4}\div 7\frac{1}{2}=-\frac{5}{4}\div\frac{15}{2}=-\frac{5}{4}\cdot\frac{2}{15}=-\frac{\cancel{5}\cdot\cancel{2}}{\cancel{2}\cdot 2\cdot 3\cdot\cancel{5}}=-\frac{1}{6}$$

Solve.

15. $-5\frac{1}{2}\div-\frac{3}{4}$

16. $10\frac{5}{8}+\left(-2\frac{1}{2}\right)$

17. $5\frac{1}{5}+\left(-2\frac{2}{15}\right)$

18. $12\frac{3}{4}-\left(-1\frac{5}{8}\right)$

19. $(0.3) \cdot (-0.032)$

20. $-8.4 \div -2.5$

21. $5\frac{1}{12} - \left(-2\frac{6}{7}\right)$

22. $-6\frac{1}{7} \cdot -\frac{4}{5}$

23. $-2\frac{3}{8} \div 3\frac{1}{4}$

24. $-4\frac{3}{10} - 1\frac{1}{5}$

25. $-3.4 + (-32.65)$

26. $-7.5 - 14.93$